· COLORADO RIVER ·

AQUEDUCT NEWS

THE METROPOLITAN WATER DISTRICT

OF SOUTHERN CALIFORNIA

Vol. VII.

DECEMBER 25, 1940

No. 12



District Seal over Main Entrance to Softening and Filtration Plant. Photographed by District Photographer Walter J. Winzell,

· COLORADO RIVER ·

306 WEST THIRD ST. Los Angeles, California

Published monthly in the interest of Field and Office Workers on the Colorado River Aqueduct, and for the information of all other citizens of the Metropolitan Water District.

Vol. VII December 25, 1940 No. 12

An Aqueduct Christmas Editorial

As the year 1940 draws to a close, the building of the Colorado River Aqueduct has been brought practically to completion.

It is true that there is still in progress more than \$9,000,000 worth of heavy construction work on the Aqueduct's distribution system. More than a thousand men are still employed directly on this construction work, and there remain about 40 miles of distribution lines to be installed. This is a big job in itself, but it is work now actually under way. And it is work which when completed will place the giant water supply system in full readiness to begin the delivery of Colorado River water to the people of the District cities.

In the year 1941, just ahead, the Aqueduct will go into operation. This will mean that seventeen years of planning and building have been crowned with success. It will mean that what was once only a dream, a paper project, an idea, has at last been wrought into a gigantic functioning utility of steel and concrete.

It will mean that here in Southwest America, Man, at last, has won a major victory over Drought and the Desert.

It was late in the year of 1923 when the first field surveys were started on the Colorado River Aqueduct. Since those days many are the heartbreaking battles that have been fought and won to make this great project a reality. Many of the dauntless leaders who carried the battle standards in the earlier days have now passed to the great beyond. Many still remain on the firing line. To these valiant soldiers—living and dead-we doff our hats. They and the tens of thousands whose toil has built the Aqueduct have in truth made possible a Merry Christmas and a Happy New Year for all the people of the thirteen golden cities of The Metropolitan Water District of Southern California.

Construction Crews Drive Forward To Complete Distribution System

Good progress was maintained on most of the remaining distribution system contracts to December 14, as weather conditions to that time were favorable for construction operations. Approximately 38 miles of delivery lines to member cities and 7 miles of disposal pipe lines from the water softening and filtration plant remained to be completed at the middle of December. All of this work is expected to be finished by the end of April of next year.

At the water softening and filtration plant Griffith Company has completed 97 per cent of earthwork and 99 per cent of the concrete. Interior finish of buildings and installation of equipment are being completed rapidly. United Concrete Pipe Corporation has worked on the wastewater line with crews at three locations and has laid about 75 per cent of the centrifugally spun concrete pipe on the 22-mile line. A contract was executed on December 13 with M. C. Nottingham Co. of Temple City. California, for the construction of a 0.7-mile sewer connection from the water softening plant to the sewer system of the city of La Verne and a 0.9-mile sludge disposal line.

On the line from Glendale to Burbank the American Concrete and Steel Pipe Company has laid practically all of the precast concrete pipe on Schedule 29P, which is 2.4 miles in length; the J. F. Shea Co., Inc. on Schedule 30SC has laid steel pipe from Verdugo Avenue in Burbank easterly through Glendale to Cordova Street, with only 2000

feet of line, or about 10 per cent of the total, remaining to be completed; and at the Hollywood tunnel this contractor has finished excavation and is placing concrete lining. United Concrete Pipe Corporation continued the casting of concrete pipe for Schedule 31P, from Burbank to Hollywood tunnel, and started field construction operations on December 12. Cast-iron pipe has been laid on Schedule 33CI by Artukovich Bros. from the Santa Monica delivery structure easterly to a point on Santa Monica Blvd. near the Beverly Hills city limits, and through the nursery property north of Santa Monica Blvd., for a total distance of 3.8 miles, or about 49 per cent of the line from Hollywood tunnel to Santa Monica.

The casting of precast concrete pipe for the northerly 18.9 miles of the Orange County feeder has been continued, and the American Concrete and Steel Pipe Company, contractor on the work, has laid about 0.5 mile of pipe in the vicinity of Spadra. On the southerly 8.8 miles of this line the Macco Construction Co. has laid 2.5 miles of steel pipe northerly from the Santa Ana delivery point, including the crossing of the Santa Ana River. Excavation and embankment operations were continued by C. G. Willis and Sons at the Orange County reservoir to 45 per cent completion, and the reservoir outlet pipe has been installed.

Werner and Webb have completed the laying of asbestos cement pipe and (Continued on Page 4.)

DIRECTORY

BOARD OF DIRECTORS

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Vice-Chairman
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Asst. Chief Engineer....

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Elisabeth von Hagen

DIVISION ENGINEERS Distribution......R. B. Diemer Transmission...Robt. N. Allen Maintenance......W. J. Neale Distribution ..

SUPERINTENDENTS
(Main Aqueduct Tunnels)
(Main Jacinto Tunnel, District
Force Acct., B. C. Leadbetter, Gen. Supt. Softening and Filtration Plant Griffith Company. Weymouth Crowell Co., Project Manager, Olen Evans. Field Supt.

Waste Water Disposal Line United Concrete Pipe Corporation
Schedule 29P
American Concrete & Steel Pipe Co.
Schedule 30SC
J. F. Shea Co., Inc.
Hollywood Tunnel
J. F. Shea Co., Inc.
Schedule 31P
United Concrete Pipe Corp.
Schedules 32CI, 33CI
Artukovich Bros.
Schedules 34P, 35P, 36P
American Concrete & Steel
Pipe Co.
Schedule 37SC
Macco Construction Co. Crowell Co., Project Manager. Schedule 37SC
Macco Construction Co.
Schedules 38SC, 39A
Werner & Webb
Schedule 40A
Warren Southwest, Inc.
Schedule 41P
American Concrete & Steel
Pipe Co.

Orange County Reservoir
C. G. Willis & Sons, Inc., and
Charles G. Willis.

Christmas Seasons in Past Years Mark Major Advances in Aqueduct Work

December and the Christmas-New Year holiday season have figured conspicuously in the development of the Colorado River Aqueduct project. In fact, if we look back over the holiday seasons of the past seventeen years we find that in those particular periods have occurred many of the major events which marked, step by step, the advance of the great aqueduct program. Let us look back over these holiday seasons as far as the year 1923.

Aqueduct survey parties were scattered out over the vast desert and mountain spaces between the coastal plain and the Colorado River scouting out the first tentative routes for the giant water line. On December 10, the second Swing-Johnson (Boulder Dam) bill was introduced in Congress. This bill, essentially in the same form, thereafter was introduced in the 67th, 68th, 69th and 70th Congresses before it was finally enacted into law in 1928. Late in December the States of California, Nevada, Utah, Wyoming, Colorado and New Mexico

ratified the Colorado River Compact.

1924—Late in December James T. Howard, now the General Counsel of the District, and W. B. Mathews, at that time Special Counsel for the Los Angeles Department of Water and Power, were completing their draft of the Metropolitan Water District Act. This legislation was introduced at the January, 1925, session of the State Legislature, but failed of enactment by a narrow vote.

1925—Work on Colorado River Aqueduct surveys was being greatly accelerated as the year 1925 drew to a close. The reason: Funds had finally been made available from the \$2,000,000 bond issue voted the previous summer for the purpose of financing aqueduct engineering work.

1926—In December of this year Mr. Mathews and Mr. Howard were again preparing to submit to the State Legislature the second draft of a bill creating The Metropolitan Water District of Southern California. The Legislature, which convened in January of



An Aqueduct pathfinder. One of the band of Aqueduct surveyors who, in the '20's, tramped and rode over 20,000 miles of barren desert spaces.

1927, adopted this legislation, and the way was thus opened for the formation of the District.

1927—On December 5 of this year (Continued on Page 8.)



Officials who participated in the first meeting of the Board of Directors of The Metropolitan Water District of Southern California at the Huntington Hotel in Pasadena on December 29, 1928. (Left to right) Director Harry L. Heffner of San Marino; Director Franklin Thomas of Pasadena; Director Harvey E. Bruce of Burbank; Director A. W. Franzen of Anaheim; Director W. P. Whitsett of Los Angeles; Director William O. Harris of San Bernardino; Director S. H. Finley of Santa Ana; Director W. Turney Fox of Glendale; Director George H. Hutton of Santa Monica; Director Paul E. Schwab of Beverly Hills; Director C. A. Hutchinson of Colton; Attorney James H. Howard; Hiram W. Wadsworth, President of the Colorado River Aqueduct Association; and Clayton R. Taylor, Chairman of the Pasadena City Board of Directors. Of this original group, Directors Thomas, Whitsett and Finley have remained members of the Board of Directors. Mr. Howard is now General Counsel of the District.



Women of the District's Headquarters Office

In response to your repeated and insistent requests, Gentlemen, here they are. The charming ladies of the District's Head-quarters organization—and the persons who, incidentally, do the work.

First row (left to right)—Dorothy Goddard, Information; Thelma Jones, Secretary to Assistant to the General Manager;

Daisy Gilbert, Secretary to Assistant General Counsel; Jean Case Randall, Controller's Office.

Second row (left to right)—Marian Crews, Compensation Claims Division; Orpha Bartz, Secretary to Chief Electrical Engineer; Miriam Taylor, Secretary to Controller; Ruth Thiers, Secretary to General Counsel; Elisabeth von Hagen, Secretary to General Manager and Chief Engineer; Dolores Sholz, Secretary to Assistant Chief Engineer; Helen A. Scherer, Mails and Files Division.

Third row (left to right)—Elvira Meyrer, Legal Division; Harriet Spencer, Accounting Division; Estelle McGee, Purchasing Division; Mary Prall, Employment Office; Marjorie Howell, Purchasing Division; Nadene Harvey, Treasurer's Office; Hortense

Miller, Employment Office; Agnes Dunning, Secretary to Distribution Engineer.

Top row (left to right)—Viola Crutcher, Accounting Division; Caroline Fryberg, Design Division; Lillian Hildebrand, Design Division; Edith Mallery, Accounting Division; Lorna Lampkin, Draftsman, Design Division; Grace Jessup, Legal Division; Margaret Swank, Executive Secretary's Office; Fannie Mae Fink, Stenographic Division; Ethel Lockhart, Right of Way Division; Mary Malone, Purchasing Division.

Lower right (left to right)—Lois Johnson and Belle Cawley, the two District telephone operators, whose duties required them to remain at their post while the other women were having their pictures taken. The only District headquarters woman em-

ployee not shown in the group is Vera Mayer of the Legal Division, who was on vacation.

Distribution Progress

(Continued from Page 2.)

the final leakage test on the 0.6-mile Compton lateral extension; cleanup work and replacement of sidewalk are in progress. The same contractor started to construct the 0.4-mile Burbank extension on November 15, and this work was about 30 per cent completed on December 14. All of the cement asbestos pipe, 1.9 miles in length, has been laid and tested on the Torrance extension by Warren Southwest, Inc., and final cleanup is being made. Ameri-

can Concrete and Steel Pipe Company completed the construction of the precast concrete pipe crossing of the Los Angeles River on the Long Beach extension, and then suspended operations on this line until the completion of its work in Glendale.

Ninety-five per cent of the steel pipe has been laid at the Morris reservoir connection by Elliott-Stroud-Seabrook, including the section across the San Gabriel River channel; concrete has been placed at the north portal of Monrovia No. 2 tunnel and in the meter and valve structures. The construction of the cottage and chlorination station at Palos Verdes reservoir was started during the early part of December by The Contracting Engineers Co.

Employment on the distribution system operations has been fairly constant during the past two months, with 1200 to 1300 persons employed on the field construction work or at the pipe fabrication plants.

On the whole, construction work on the aqueduct's distribution system is proceeding satisfactorily and is expected to be completed on about the dates scheduled.

—R. G. PALSTINE.

NEWS FROM FIELD AND OFFICE



CHARLES J. (Charlie) BRANDT Thirteen years on the Aqueduct job, and now he's in the Army.

It hasn't seemed quite the same in the District's Los Angeles offices since November 30. That was the day on which Charles J. (Charlie) Brandt cleared his desk in the Mails and Files Division, and headed east for Fort Monroe, Virginia. And now it's Captain Brandt of the Coast Artillery, U. S. A., if you please.

Charlie Brandt is one of the veterans of the M. W. D. and the Colorado River Aqueduct, having started working on the Aqueduct project with the Los Angeles Water Bureau in 1927. In 1929 he entered the service of the District.

Ever since Aqueduct construction work has been under way, Charlie has been the efficient, resourceful, ever dependable head of the Mails and Files Division. But that was only part of it. Whenever there turned up a problem or a job to do, in or out of the office, that was out of the ordinary run of things, there invariably also turned up Charlie Brandt. And the job was done—and done right.

Captain Brandt received his first military training in the Manual Arts High School R.O.T.C. He joined the U. S. Coast Artillery Reserves in 1931. He was promoted to the rank of Captain in August of this year. He is now attending Coast Artillery School at Fort Monroe. Later, he is scheduled to be an instructor in an Army firing center.

AQUEDUCT TEMPERATURES Nov. 15 to Dec. 15, 1940

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N.	Iax.	Min.
Gene Pumping Plant	. 78	36
Iron Mt. Pumping Plant	. 79	35
Eagle Mt. Pump. Plant	. 83	34
Banning	. 79	33
Lake Mathews	. 83	42

Another aqueducter recently to enter the United States military service is Newmann B. (Knute) Smith who resigned on December 14. Knute held the rank of Captain in the United States Army Reserves, and is now on active duty with the Army forces in a military training center near San Luis Obispo.

Captain Smith first entered the employment of the District in May, 1931. For some time he was chief of party and assistant engineer working out of the Banning field headquarters. He resigned from the District in 1938 to work for the Division of Water Resources. In April, 1939, he re-entered the service of the District as an assistant engineer in charge of party on pipe line surveys for the softening and filtration plant.

Captain Lynn D. Smith (looks like the Army is filling up with Captain Smiths), who two months ago left his editorial desk on the Aqueduct News to assume active military duties, recently was assigned to duty at the Presidio in San Francisco. Previously he had been in the Army's Southern California headquarters office in Los Angeles.



Harry G. Hawley, who has read copy and proof and supervised the printing of dozens of District publications and scores of voluminous construction specifications for the entire aqueduct system. Millions of printed words have passed in review under his searching scrutiny.



HARRIS V. (Harry) CRAWSHAW
The above photo was enlarged from a
frame of film taken from the District's
motion picture, "The Thirteen Golden
Cities". More than a million persons have
seen Harry in the role of the designing
engineer in that movie.

After rounding out more than ten years of engineering work with the District, Harry Crawshaw handed in his resignation late last month, and accepted the position of office engineer for Morrison-Knudsen Construction Co. on an army barracks building job near Paso Robles.

Harry came with the District in May, 1930. He had previously been engaged in Colorado River Aqueduct surveys and studies with the Los Angeles Water Bureau. Thus he is decidedly a member of that select company of Original Aqueducters.

During his service with the District, Harry was in the Distribution Division where he was in charge of drafting and right-of-way computations and plats. It was also his duty to assemble, compute and plat field surveys.

After attending night classes for several years, Harry last spring obtained his bachelor's degree in Civil Engineering at U. S. C. He was recently made a member of Chi Epsilon national honorary engineering fraternity.

In addition to his studies and engineering work with the District he found time to win the Southern California Class B singles in Badminton last summer

On his job with Morrison-Knudsen, Harry is in charge of office engineering work, while his old sidekick on the Aqueduct, Ben Bolton, is field engineer on the same contract,

MONTHLY REPORT REVIEWS ACTIVITIES ALONG THE AQUEDUCT LINE

(EDITOR'S NOTE: The following is a brief summary of some of the activities of the District as set forth in the monthly report of General Manager F. E. Weymouth, filed with the Board of Directors in December, covering work done in November).

Legal Division

Temporary refunding bonds in the amount of \$12,096,000, of which \$1,512,000 bore interest at the rate of 4%, and \$10,584,000 at the rate of 3½%, were delivered to the R.F.C. in exchange for Interim Certificates Nos. 101 to 103, inclusive, representing \$12,096,000 of original bonds bearing interest at the rate of 5%. Subsequently, these temporary refunding bonds were surrendered to the District and there was delivered to the R.F.C. in exchange therefor \$12,096,000 of temporary refunding bonds bearing interest at the rate of 3%.

Miscellaneous Activities Division

On the afternoon of November 16 the Board of Directors officially dedicated Lake Mathews and the Mathews Memorial. Approximately 1000 persons attended the program, including officials of Los Angeles, Orange and Riverside counties, the thirteen District cities, and a large number of men and women who had known and been associated with W. B. Mathews during his lifetime. The dedication exercises included the unveiling of the William Burgess Mathews plaque in the Memorial structure.

Main Aqueduct

Salvage Division — Stock appraised and transferred to the Banning salvage vard to date amounts to \$2,364,530.12. Sales during November amounted to \$14,118.52. Total of salvage disbursements to date amounts to \$1,490,908.44.

Parker Dam and Power Plant—The Bureau of Reclamation forces completed all excavation for the power house foundations and placed concrete for power units 1 and 2.

Electrical Engineering Division

Pumping Plants — The pumping plants were operated on a construction schedule from November 1 to November 28, to supply water for testing and conditioning aqueduct structures. Pumping was discontinued on November 28 for general inspection and overhaul of equipment.

Construction—On the Lake Mathews-La Verne telephone line a total of 51/4 miles of line was completed.

Civil Engineering Division

Design—Plans of the meter structure for the chlorination station at the Orange County Reservoir were completed.

Specifications—Three sets of specifications were issued during the month and recommendation for awards made on specifications No. 347 for construction of chlorination station, cottage, garage, and appurtenant works at Palos Verdes Reservoir, and No. 349 for construction of sanitary sewer, sludge disposal pipe line, and appurtenant works for the water softening plant.

Hydrography—Hearings in Los Angeles on power rates in connection with the Boulder Canyon Project Adjustment Act required considerable time during the month in the preparation and presentation of exhibits. The District was represented at a meeting of the Committee of Sixteen of the Colorado River Basin at Boulder City, Nevada.

Distribution Division

Field and Office Engineering—All field surveys were in connection with construction in progress. In the office, plan-profile drawings for the sewer and sludge lines from the softening plant were completed.

Contract Work—At the water softening and filtration plant, the contractor has completed 97 per cent of earthwork and 99 per cent of concrete work. On the Santa Monica feeder, the contractor has laid all but 1640 feet of Schedule 29P. All pipe laying on the Compton line is completed and the contractor has broken pavement and is laying pipe for the Burbank lateral. Excavation and embankment operations at the Orange County Reservoir are 39 per cent complete

Purchasing Division

A total of 361 purchase orders was issued during November, covering purchases amounting to approximately \$34,-500.00. Carload forwarding totaled 81, of which 60 were cement and 12 zeolite.

Accounting and Costkeeping

The total cost of the work accomplished to November 30, 1940, was \$187,635,479.17.



This is not a pipe dream, but a view of workmen installing 80-inch welded steel pipe that connects the aqueduct distribution system with Morris Reservoir.

Yuletide Frolic

As this issue of the Aqueduct News goes to press, the District employees in the Los Angeles headquarters were completing plans for the annual Yuletide Frolic and Dance. Under the direction of Ringmaster Gene Reynolds, special committees were whipping into shape every detail aimed to entertain and please the participants.

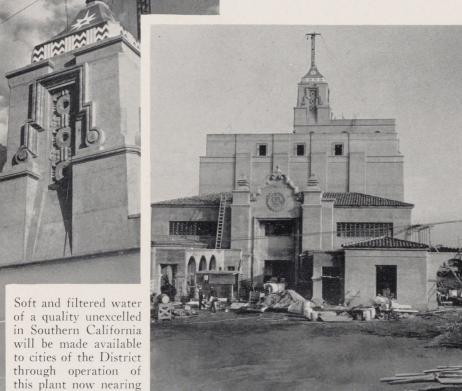
Starting at noon on Tuesday, December 24, the party will be held in the basement auditorium of the headquarters building. These quarters have been especially decorated for the occasion.

There will be all sorts of good things to eat, music and dancing.

A number of employees from the field were expected to attend.

completion.

Nearing Completion Is Plant to Soften And Filter Water









On the Upper Feeder of the Aqueduct's Distribution System, construction forces rapidly are bringing to completion the Softening and Filtration plant. (Upper left) Detail of Water Tower on Head House. (Center) Front View, Administration Building and Head House. (Upper right) Four of District's engineers on the job. (Left to right) Peter De Pace, inspector; B. H. Martin, Resident Engineer; Ralph Davis and Wilson A. Pratt, inspectors. (Lower left) General View, Settling Basins, Filters and Wash. Water Tank. (Lower right) Zeolite Softener Building, taken from roof of Head House.

Christmas Review

(Continued from Page 3.)

the Boulder Canyon project act, authorizing construction of Boulder Dam, was introdu ed in Congress for the fourth time. During the latter part of December special engineering advisers, appointed by the Secretary of the Interior, submitted favorable reports on the Boulder Canyon project.

1928—On December 21 President Calvin Coolidge signed the Boulder Dam project act, which previously had been adopted by Congress. The Metropolitan Water District of Southern California, with 11 member cities, had been incorporated on December 6, and on December 29, the District's Board of Directors held its first meeting at the Huntington Hotel in Pasadena.

1929—December 21 the District's Engineering Board of Review submitted a preliminary report to the District Board of Directors, in which it was recommended that further study be given to four possible routes for the aqueduct. On December 26 the Attorney General of the United States gave an opinion upholding the constitutionality of the Boulder Canyon project act.

1930—Late in December the District's Engineering Board of Review submitted its second and final report in which it recommended the so-called Parker Route for the Colorado River Aqueduct. The construction of the aqueduct along the Parker Route previously had been recommended by Chief Engineer F. E. Weymouth.

1931—As the holiday season approached in this year, District engineers and attorneys were pressing forward at full speed plans for the financing and building of the aqueduct. A \$220,000,000 bond issue to finance the construction of the aqueduct had been voted on September 29 of this year.

1932—On Christmas Day of this year construction crews, for the first time, moved into the desert and started work on the Coachella tunnels, the first section of the aqueduct to be set under way. The first block of aqueduct bonds, amounting to \$2,016,000, had been sold to the Reconstruction Finance Corporation on December 12.

1933—On Christmas Day of this year some 3,000 hard-rock tunnel men and other aqueduct builders laid off work for the day along a 200-mile aqueduct construction front. The big job was fully under way.

1934—A few days before Christmas the first contracts were awarded for the construction of tunnels on the aqueduct's



The District figgerers. When complex financial and engineering data must be reduced to tables and balanced reports, the District engineers who usually tackle and finish the job are (left to right) James P. Marvin and Ezra B. Rider.

distribution system. Construction operations, started two years before on the desert, were moving westward onto the coastal plain. Late in November the first construction operations had been started on covered conduits and canal sections on the main aqueduct.

1935—In December of this year construction work was started on the 237-mile transmission line that was to deliver electric power from Boulder Dam to the five aqueduct pumping plants. Late in November a contract had been awarded for the building of the Intake pumping plant, the first pumping plant on which construction operations were started.

1936—During the Christmas holiday season of this year construction work on the aqueduct had reached its peak with more than 10,000 men working three shifts a day along a 250-mile construction front. Aqueduct hard-rock miners were breaking every tunnel-driving record theretofore established. More than 133 miles of canals, conduits, siphons, and pipe lines had been constructed.

1937—As this year drew to a close excavation work had been completed on all of the main aqueduct tunnels except San Jacinto. Work had been started in December on the Eagle Rock to Palos

Verdes cross feeder on the aqueduct's distribution system.

1938—Christmas Day of this year found 90 per cent of construction work on the main aqueduct completed. District officials and employees were preparing to journey to the aqueduct's Division 1 headquarters on January 7 of 1939 and there witness the delivery into the Gene Reservoir of the first Colorado River water to be pumped into the aqueduct.

1939—As aqueduct employees, along with all others, were preparing to celebrate the Christmas holidays, construction operations were well under way on the District's softening and filtration plant. The first Colorado River Aqueduct water had been delivered into Lake Mathews the previous October.

Annual Report

Covering the fiscal years from July 1, 1938, to July 1, 1940, the District's second printed report will be received from the printer and made available for distribution within the next few days.

The report gives a comprehensive account of all of the District's engineering, construction, financial and administrative affairs. Already numerous requests for the volume has been received from libraries, universities and engineering groups.